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Examiner: Trevor E. McGraw
Conf. No.: 5226

REMARKS

Claims 1–19 were in the application as last examined, with claims 1–8 and 19 deemed withdrawn by restriction. Claims 6 and 7 are amended. Applicants respectfully request further consideration and examination of all of the claims in accord with the following remarks.

Restriction

The Examiner has not made the restriction requirement final, noting only that claims 1–8 and 19 are withdrawn because there is no allowable generic or linking claim and Applicants have timely traversed the requirement. Applicants respectfully request reconsideration of the restriction and allowance of all of the claims.

Applicants carry forward the prior arguments regarding restriction this case. The Examiner's determination that the special technical features of the invention include a conduit having passageways with cavities (Group I), a method of manufacturing using a drill with electromechanical machining (Group II), and a fuel distribution system for an internal combustion engine (Group III) is wrong. According to PCT Rule 13.2 and 37 U.S.C. §1.475, the expression "special technical features" means those technical features that **define a contribution which each of the claimed inventions, considered as a whole, makes over the prior art.** (emphasis added)

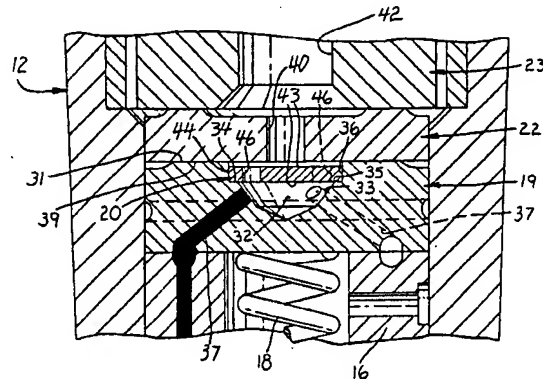
As shown below in the remarks on the substantive rejections, the special technical feature in all of the claims that is believed to define over the prior art is an enlarged cavity having a center point at an intersection of the first and second longitudinal axes at an angle other than 180 degrees.

The Examiner has not substantively responded to this point nor explained why this special technical feature in all of the claims does not fulfill the requirements for unity of the invention. It is not too late to withdraw the restriction requirement and consider all of the claims. Applicants respectfully request reconsideration of the claims deemed withdrawn

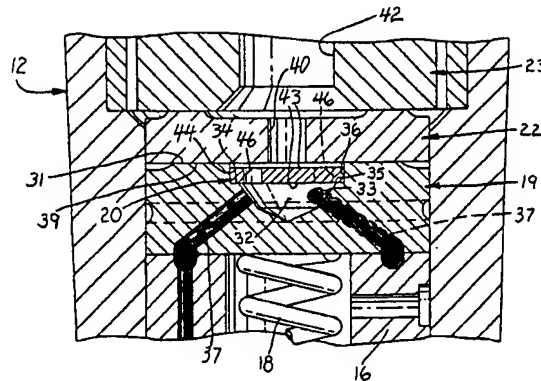
Rejections under 35 U.S.C. §102

Claims 9–18 stand rejected under 35 U.S.C. §102 as being anticipated by Goetzke et al. '094. The rejection is respectfully traversed.

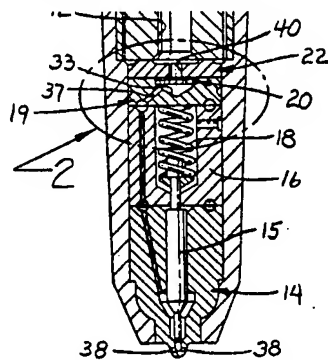
The Examiner asserts that the high pressure fuel conduit (37) of Goetzke et al. '094 has a first passageway (37) with a first longitudinal axis (axis of "37") and a second passageway (passageway of "16") with a second longitudinal axis (axis in passage of "16") wherein the first and second longitudinal axes intersect at an angle other than 180 degrees and an enlarged cavity has a center point at an intersection of the first and second longitudinal axes. Looking at Fig. 2 of Goetzke et al. '094, it is apparent that the Examiner is viewing the following structure, highlighted in blue:



But what the Examiner views as an enlarged cavity is really an artifact of cross-sectioning an annular groove, not an enlarged cavity within a body as meant by the claims. Note that there are multiple delivery passages 37 that extend from the chamber 33 (connected to the fuel pumping chamber 42) to connecting passages in the spring cage 16 and spray tip 14. (Goetzke et al. '094, Col. 2, ll. 45-49) This is a very common and well-known structure in unit fuel injectors, and is highlighted in red below:

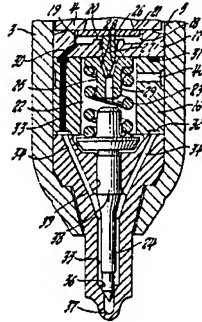


A similar structure appears at the intersection of the spring cage 16 and the spray tip 14 in Fig. 1 of Goetzke et al. '094, highlighted in red:

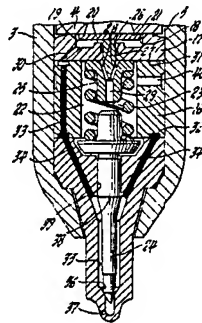


These same structures are present in Mekkes '178 and in Guertler '793, cited but not relied upon by the Examiner.

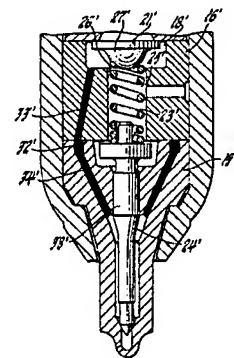
In Mekkes '078, a plurality of circumferentially spaced passages 30 (one only, shown) are provided in the spacer block 17 to connect the cavity 18 (connected to the fuel pumping chamber) with an annular groove 31 in the upper end of the spring chamber body 16 (a/k/a/ spring cage), which is connected to a longitudinal passage 33. (Mekkes '078, Col. 2, ll. 31-35) This structure is illustrated in Fig. 2, highlighted in red:



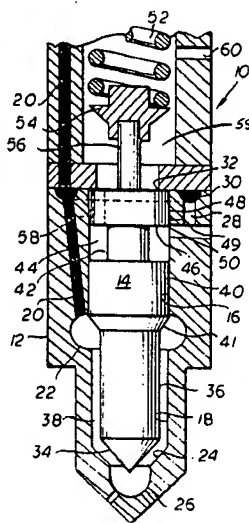
As well, like Goetzke et al. '094, a similar structure appears at the intersection of the spring chamber body 16 and the spray tip 15 in Mekkes '078. The groove 31 is connected with a similar annular groove 32 on the bottom face of the spring chamber body 16 by the longitudinal passage 33, and this lower groove 32 is, in turn, connected by a plurality of inclined passages 34. (Mekkes '078, Col. 2, ll. 34-39) See this structure in Fig. 2, highlighted in red:



In the modification of Fig. 3 in Mekkes '078, a similar structure is here highlighted in red:



The latter structure can also be found in the fuel injection system of Guertler '793. An annular passage 30 is formed in the valve body 12 and connects the high pressure fuel passage 20 with the passage 28 so that fuel from the fuel supply source which passage 20 is adapted to be connected will also flow to the passage 26. (Guertler '793, Col. 3, ll. 44-48) This structure is illustrated in red at Fig. 1:



An annular channel as disclosed in Goetzke et al. '094 is not an enlarged cavity as claimed in Applicants' invention. It cannot be spherical as described in claim 10. And even if it were considered an "enlarged cavity", the cavity of an annular groove lacks a center point. The "cavity" would be considered toroidal in shape, lacking any point in the cavity that could be thought of as the center.

Moreover, the center point of the cross-sectional area of Goetzke et al. '094 (called the "enlarged cavity" by the Examiner) is clearly not at the intersection of the longitudinal axes of the passage 37 and the unnumbered passage in the spring cage 16. The cross section of the groove is oval, or at least elongated, where the center point is on the plane of the interface between the check valve cage 19 and the spring cage 16. Unless passage 37 is 180° or 90° relative to the unnumbered passage in the spring cage, it is geometrically impossible for the intersection of the longitudinal axes to be at the center point.

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Because the claimed features of an enlarged cavity having a center point at an intersection of the first and second longitudinal axes is not found in any of the cited references, and especially Goetzke et al. '094, the claims cannot be said to be anticipated by the cited references. With regard to claims 10-13 and 15-18, Goetzke et al. '094 clearly does not teach a generally spherically shaped cavity. An annular groove by definition is not spherical.

CONCLUSION

Early notification of allowability is respectfully requested. If there are any remaining issues which the Examiner believes may be resolved in an interview, the Examiner is respectfully invited to contact the undersigned.

Respectfully submitted,

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